CLAIMS

What is claimed is:

1. An optical system including a steered beam, comprising:

a source of a light beam;

a device which receives the light beam and steers it to form the steered beam;

a target of the steered beam; and

a semi-transparent sensor having an output signal indicative of a deviation of the steered beam from the target.

2. The system of claim 1, further comprising:

a portion of the sensor overlying the target.

3. The system of claim 2, the source of the light beam further comprising:

a pilot signal source, whereby the light beam has an information carrying portion and a pilot portion.

4. The system of claim 3, wherein the pilot portion of the signal is carried on a first wavelength and the information-carrying portion of the signal is carried on a second wavelength, and wherein the sensor further comprises:

a sensor film that is more transparent at the second wavelength than at the first wavelength, and that is more sensitive to the first wavelength than the second wavelength.

5. The system of claim 2, further comprising:

a second sensor overlying the first sensor, whereby both position and direction of the beam are measured.

6. The system of claim 2, further comprising:

an optical switching element through which the beam passes, wherein the target is one of plural targets within the optical switching element.

7. A method of performing real-time control of an optical switch, comprising:

steering an optical beam onto a target within the switch;

measuring a deviation of the optical beam from a nominal center of the target, while the optical beam is on the target; and

correcting the direction of the optical beam to the nominal center of the target.

8. The method of claim 7, further comprising:

combining an information signal with a pilot signal to form the optical beam.

9. The method of claim 8, further comprising:

modulating the pilot signal to distinguish it from the information signal.

10. The method of claim 8, further comprising:

emitting the pilot signal at a different frequency than the information signal to distinguish it from the information signal.

11. The method of claim 8, including a first optical beam and a second optical beam, further comprising:

distinguishing the first optical beam from the second optical beam by modulating a first pilot signal differently than a second pilot beam modulated on the second optical beam.

12. The method of claim 7, further comprising:

detecting when the optical beam leaves the target center.

13. The method of claim 7, further comprising:

measuring a position of the optical beam as a continuous signal.